

RECLAMATION

Managing Water in the West

Central Valley Project

2013 Water Supply Challenges

June 2013



U.S. Department of the Interior
Bureau of Reclamation

- **WY2013 Challenges**
- January to May Hydrology
- Sacramento Valley Depletions
- Fishery Temperature Operations
- Delta Operations/Transfers

- **Start of WY2014**
- Low Reservoir Storages
- Low River Flows
- Continued Dry Outlook



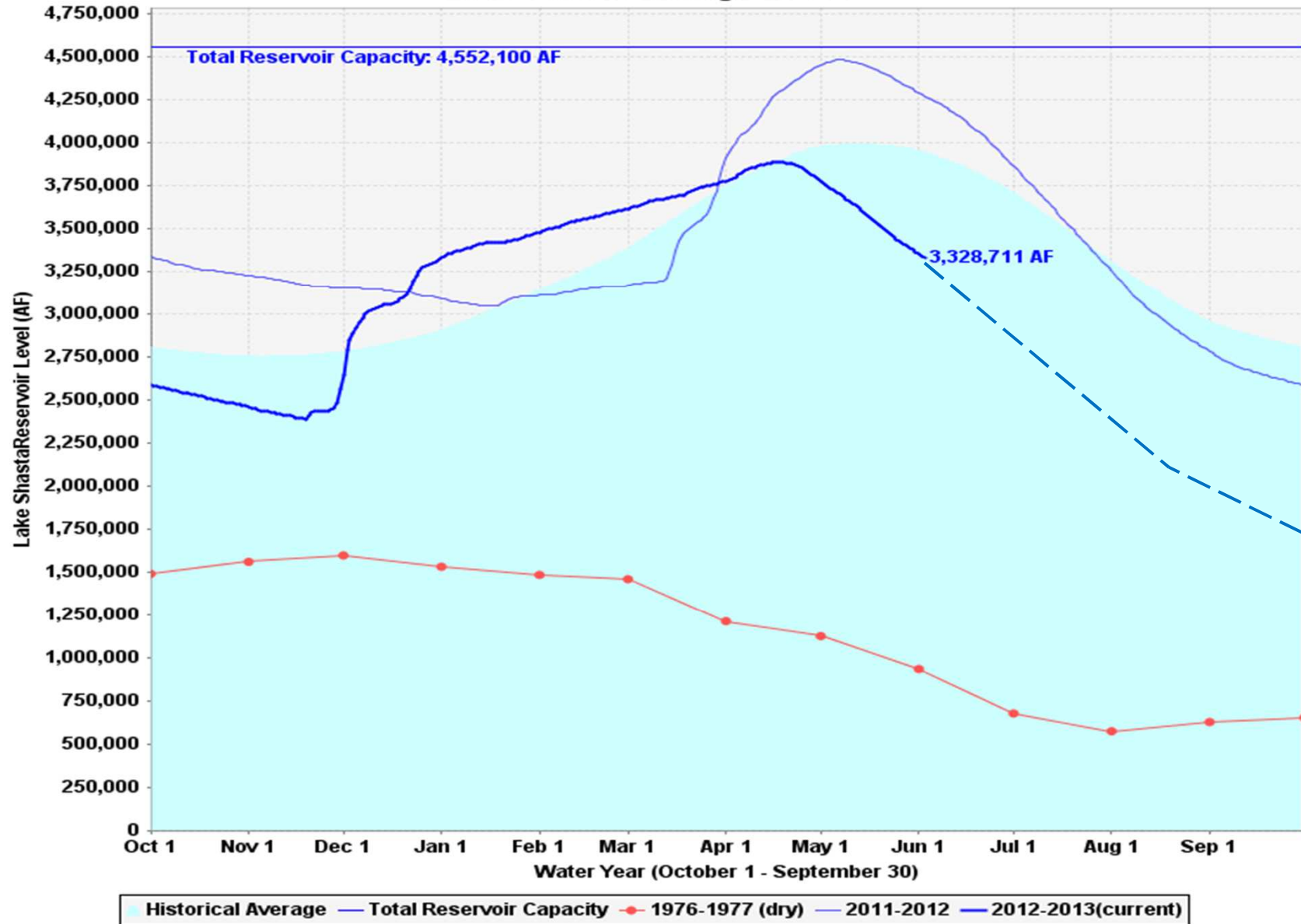
2013 Hydrology Information

- Sacramento Valley Index
- San Joaquin Valley Index
- Snow Water Content

(Handout)

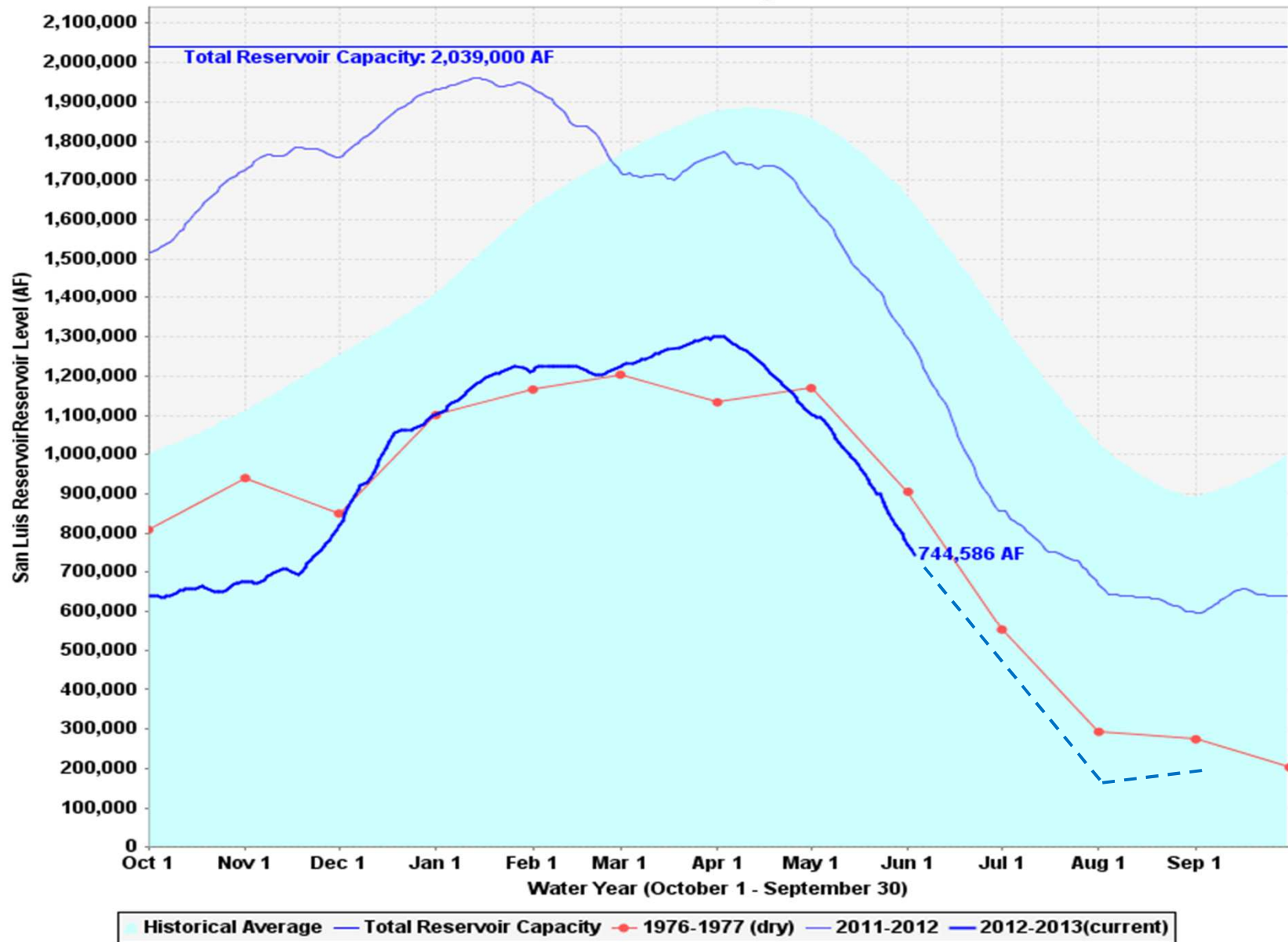
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Lake Shasta Storage Levels



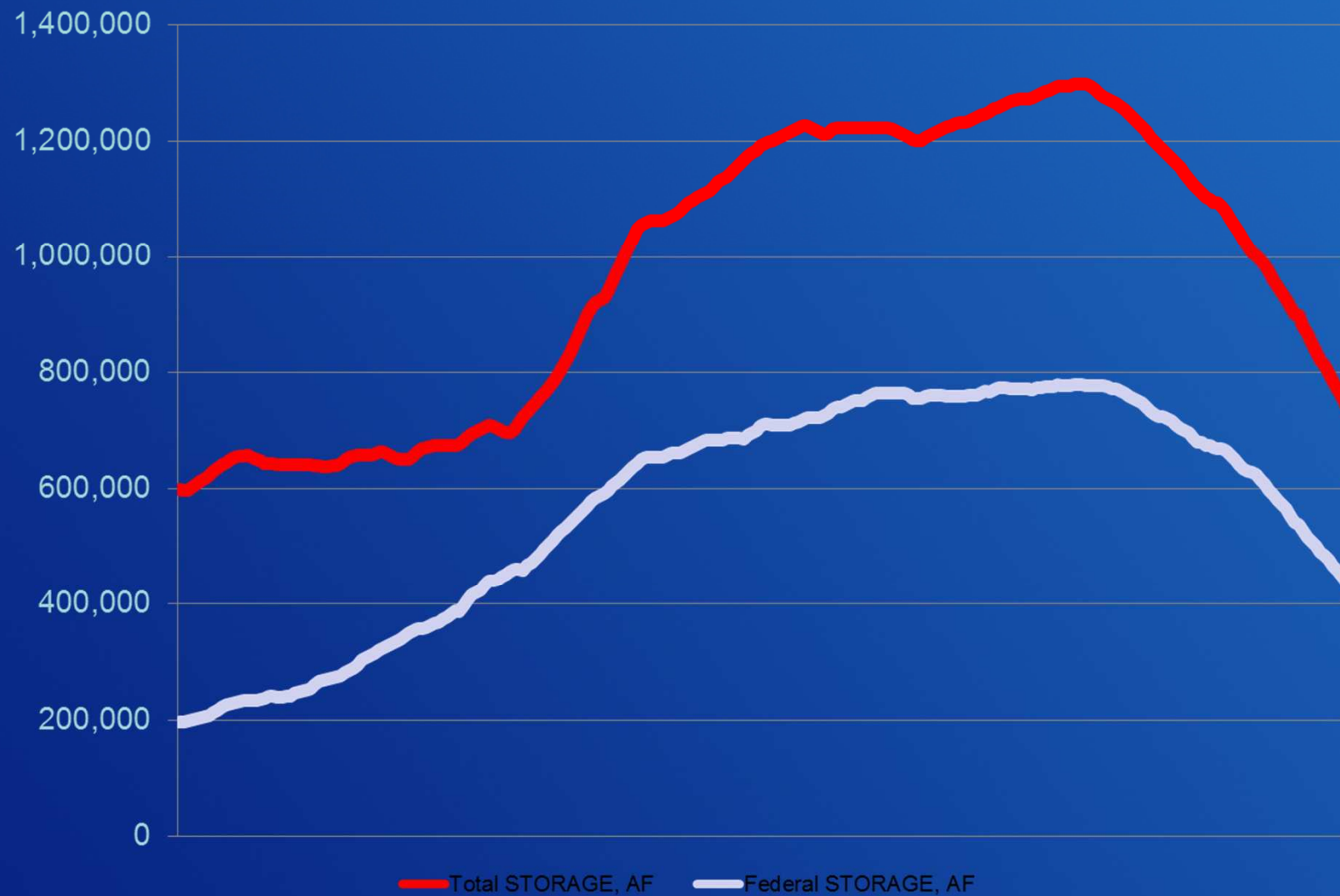
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San Luis Reservoir Storage Levels



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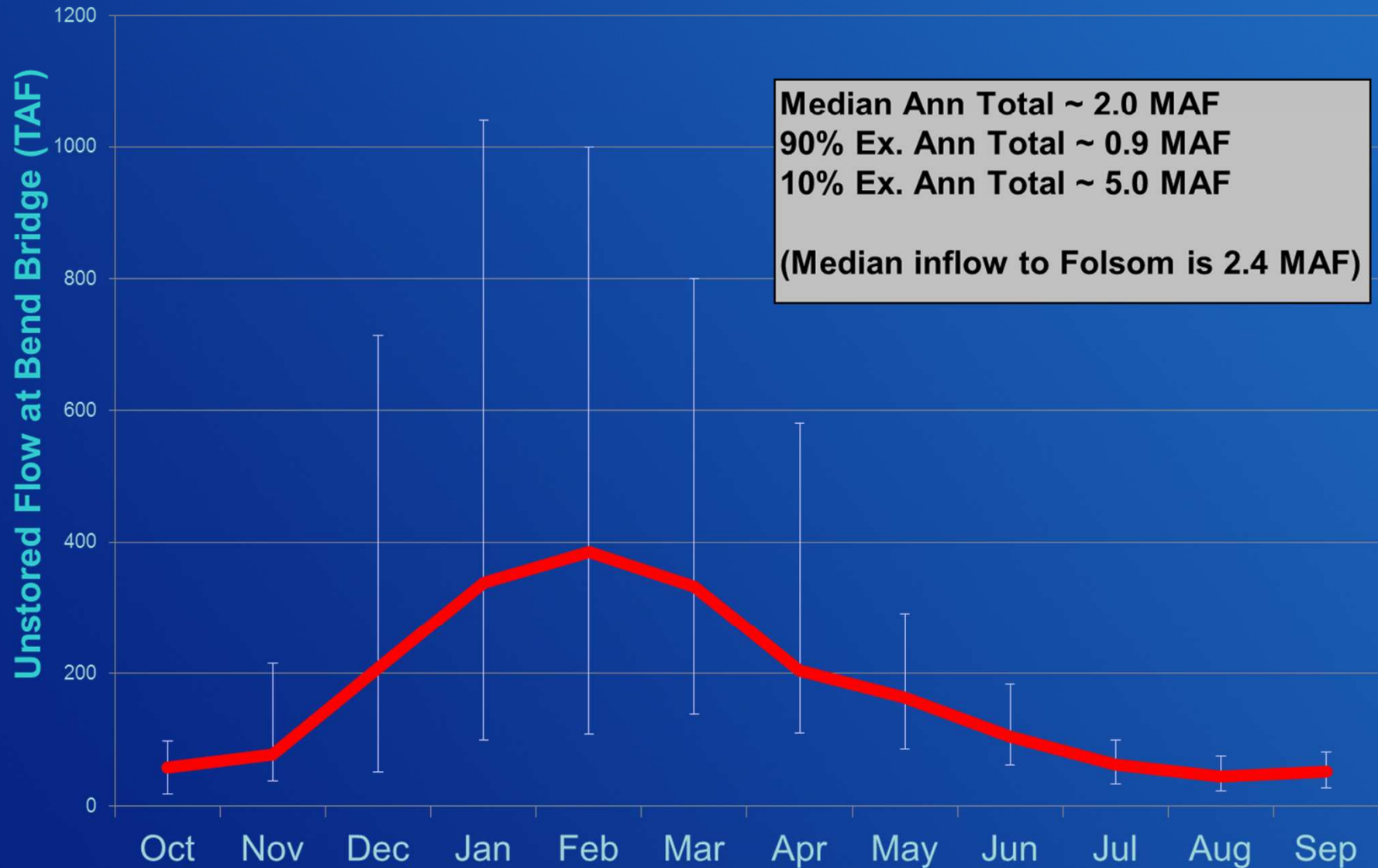
San Luis Reservoir Storage



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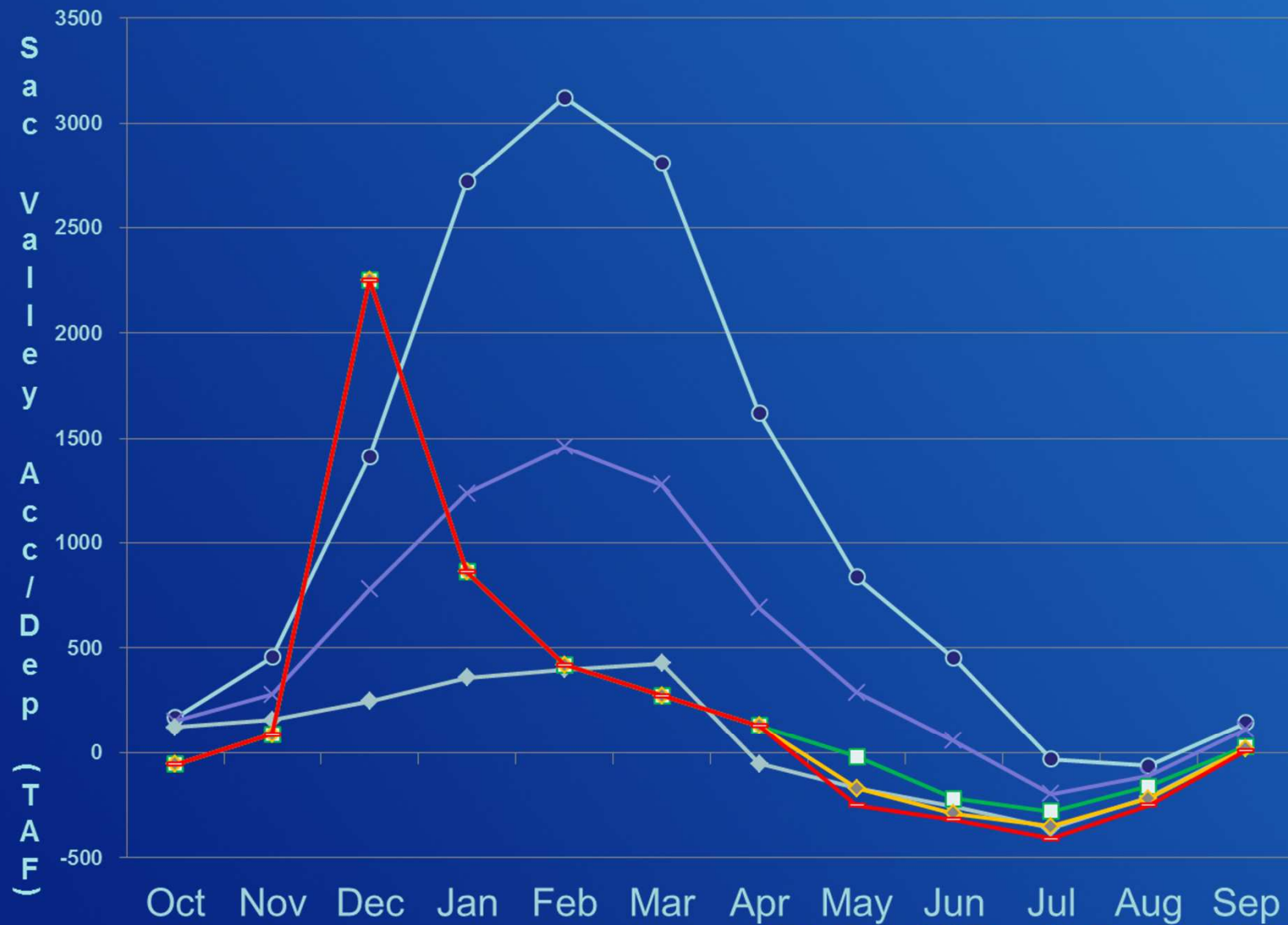
Unregulated Flow Sacramento River Flow

Median Flow at BND
with 90/10 Exceedence Bands



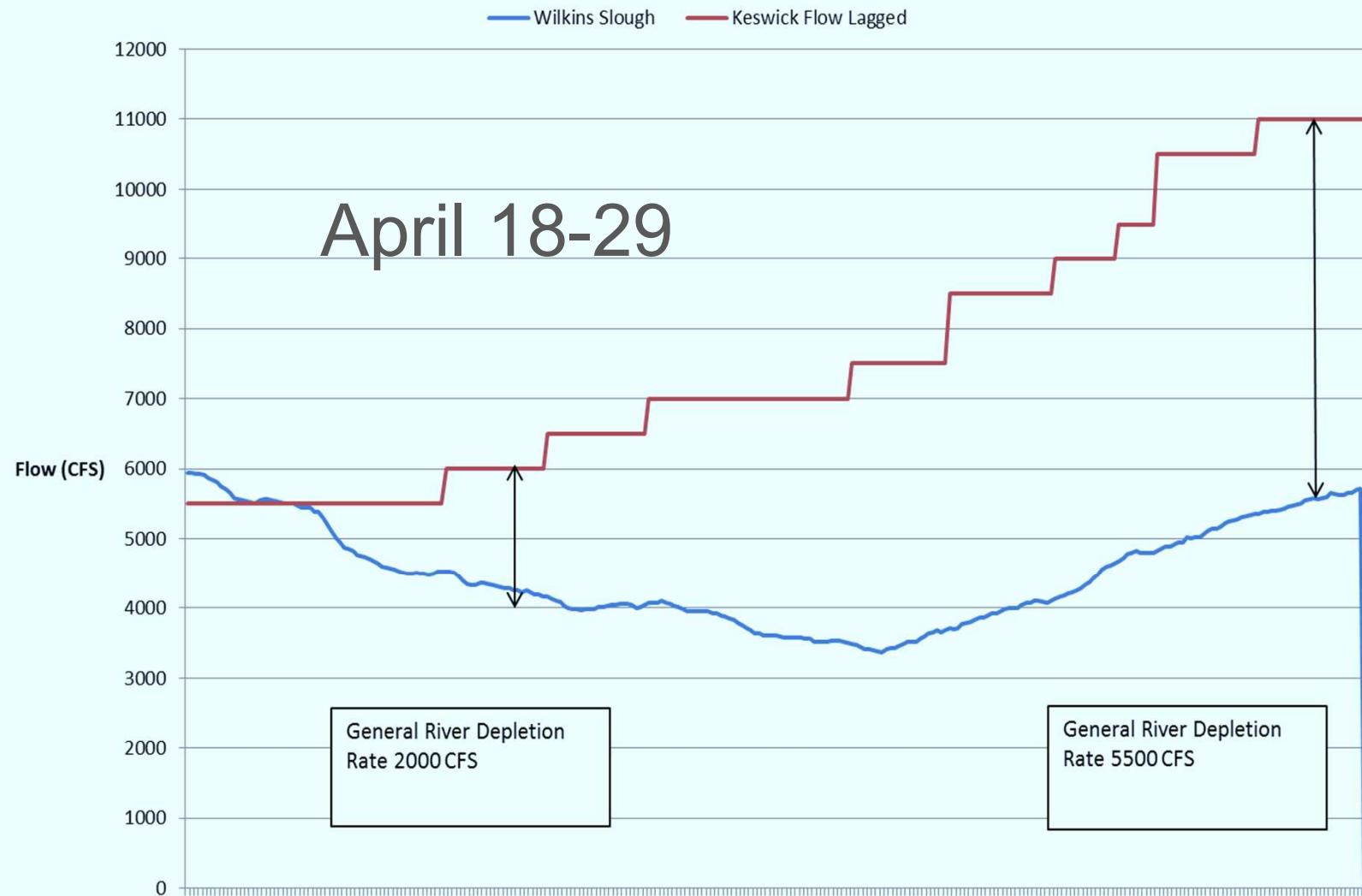
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Acc/Dep Trends for 2013 vs. Historic Exceedence



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Flow Response to Reservoir Increases at Wilkins Slough

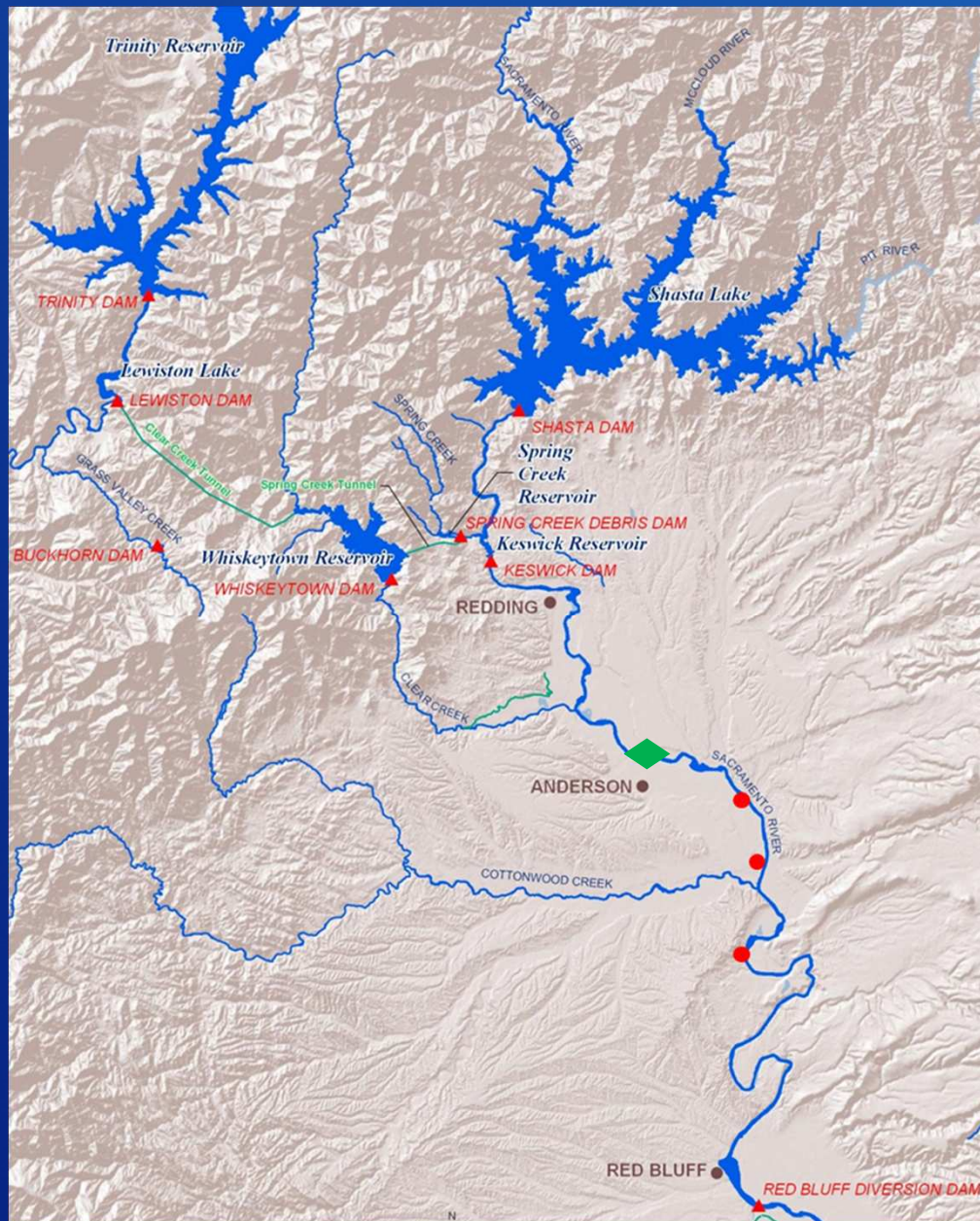


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Temperature Concerns

- Sacramento River – Airport Road
- American River – 69° F at Watt Avenue
- American River – fall-run Chinook Return
- Stanislaus River – low New Melones storage

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Sacramento River Temperature Management

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Summer Delta Uncertainties

- Sacramento Valley Deletions
- COA Payback to SWP - June
- Delta Salinity - Carriage water losses
- Outflow Objective

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WY 2014 Reservoir Storage

	End of September (acre-feet)	End of December (acre-feet)	Average End of December (acre-feet)
Trinity	1.3 m	1.2 m	1.6 m
Shasta	1.7 m	1.7 m	2.9 m
Folsom	300 k	240 k	450 k
New Melones	900 k	880 k	1.6 m
Federal San Luis	~100 k	~400 k	680 k

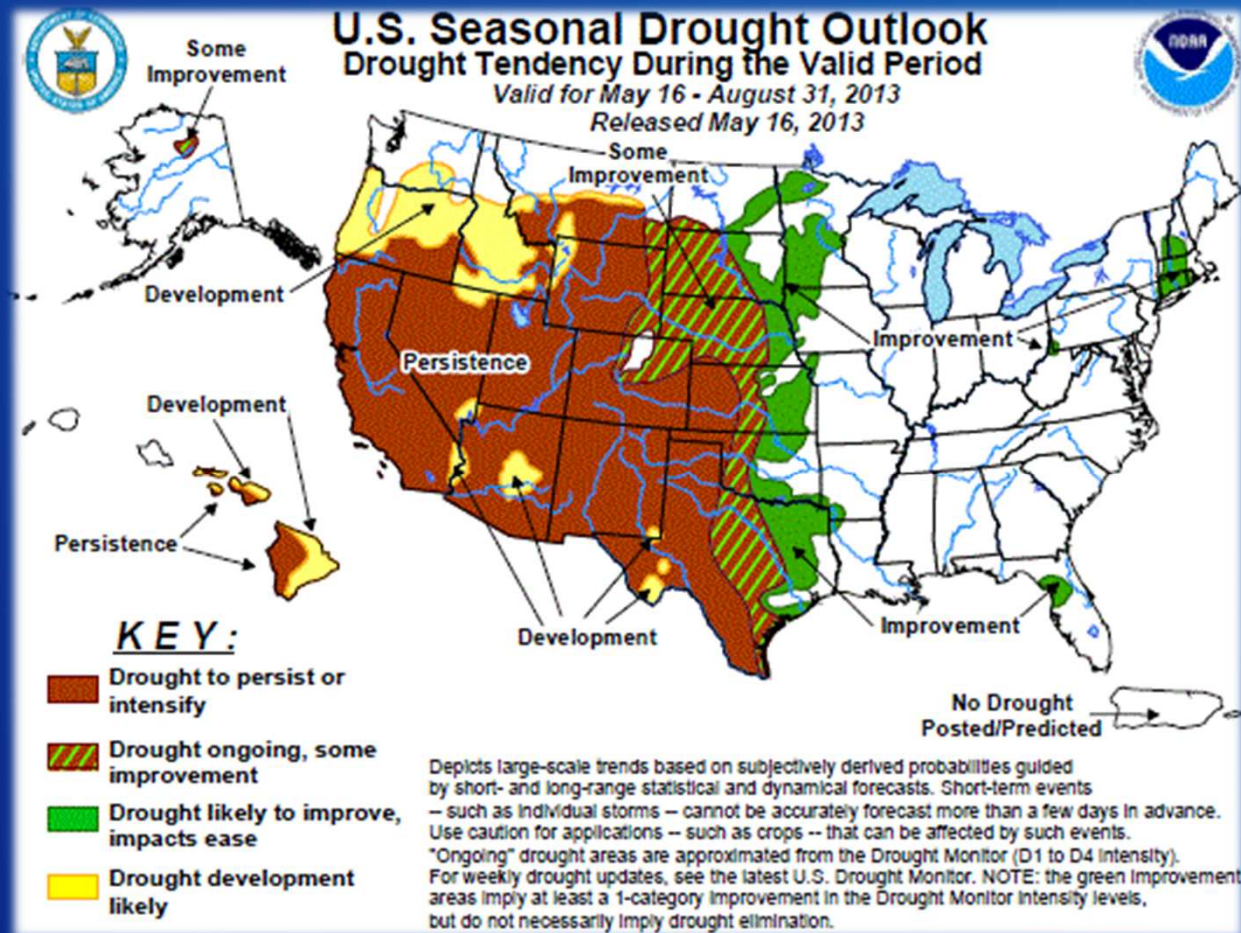
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Fall River Releases

River	Fall 2013 (cfs)	Typical Flow (cfs)
Trinity	300	300
Sacramento	5,000 → 3,250	5000
American	1,000	2000
Stanislaus	200	300

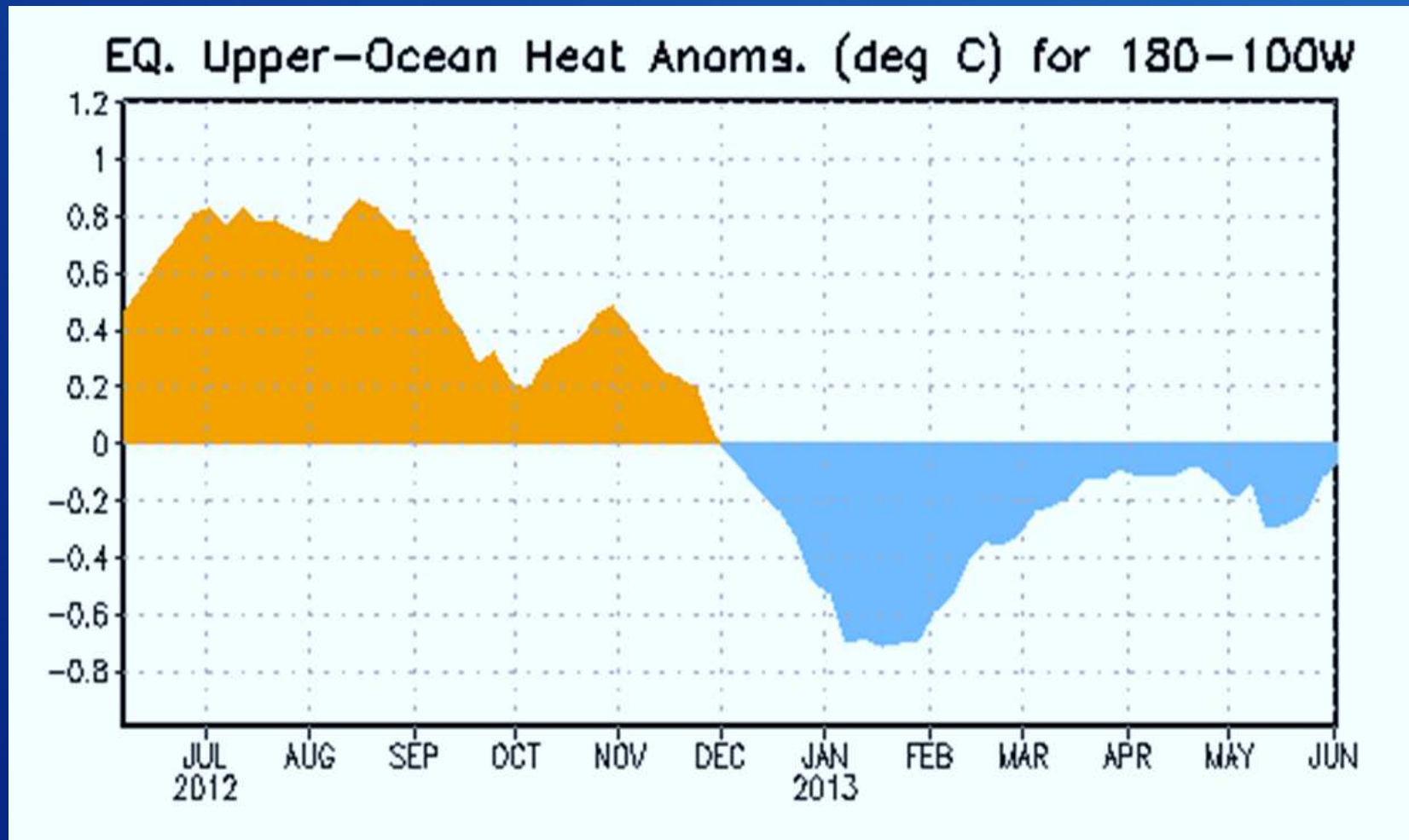
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Drought Outlook



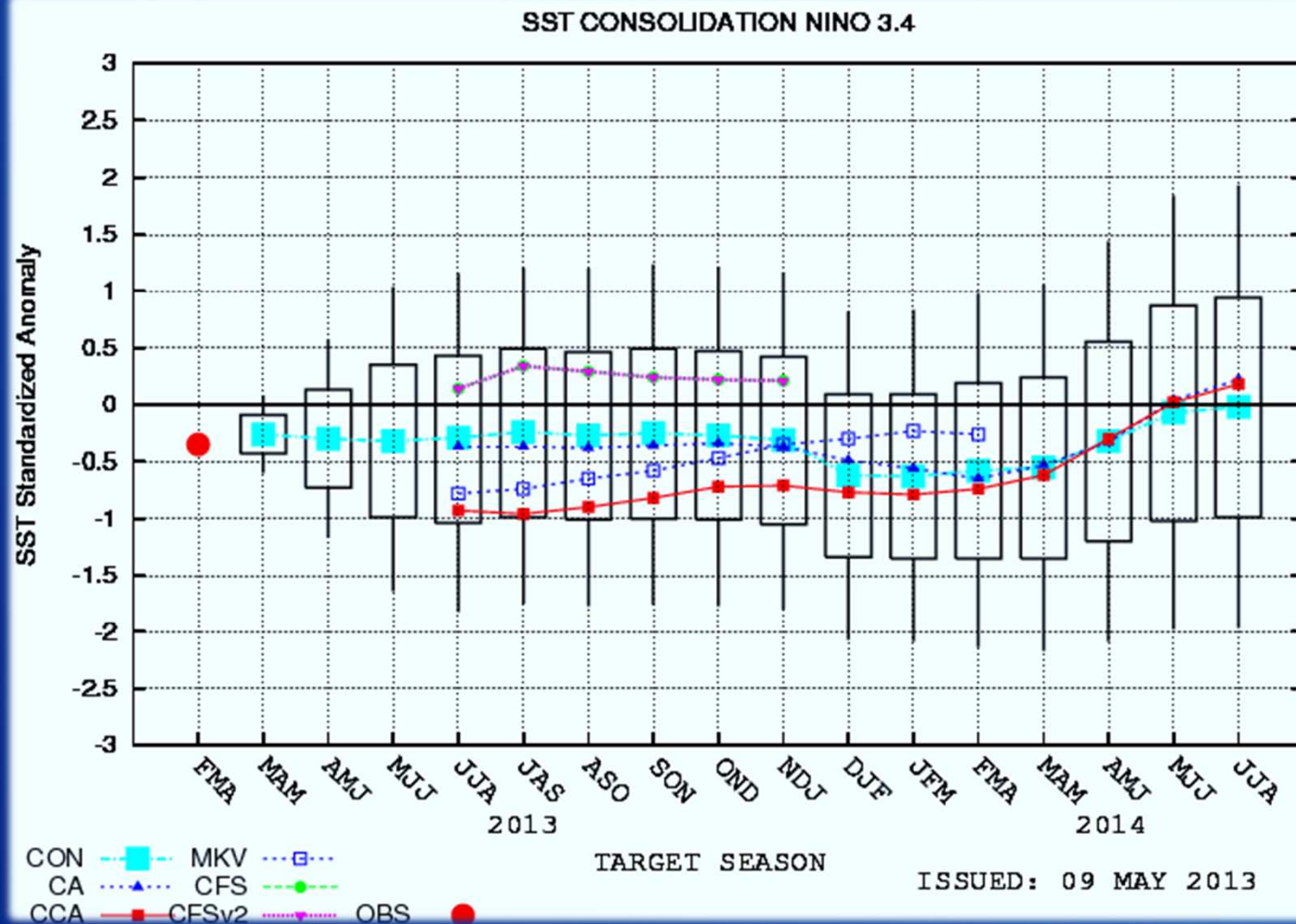
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El Niño Outlook



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El Niño Outlook



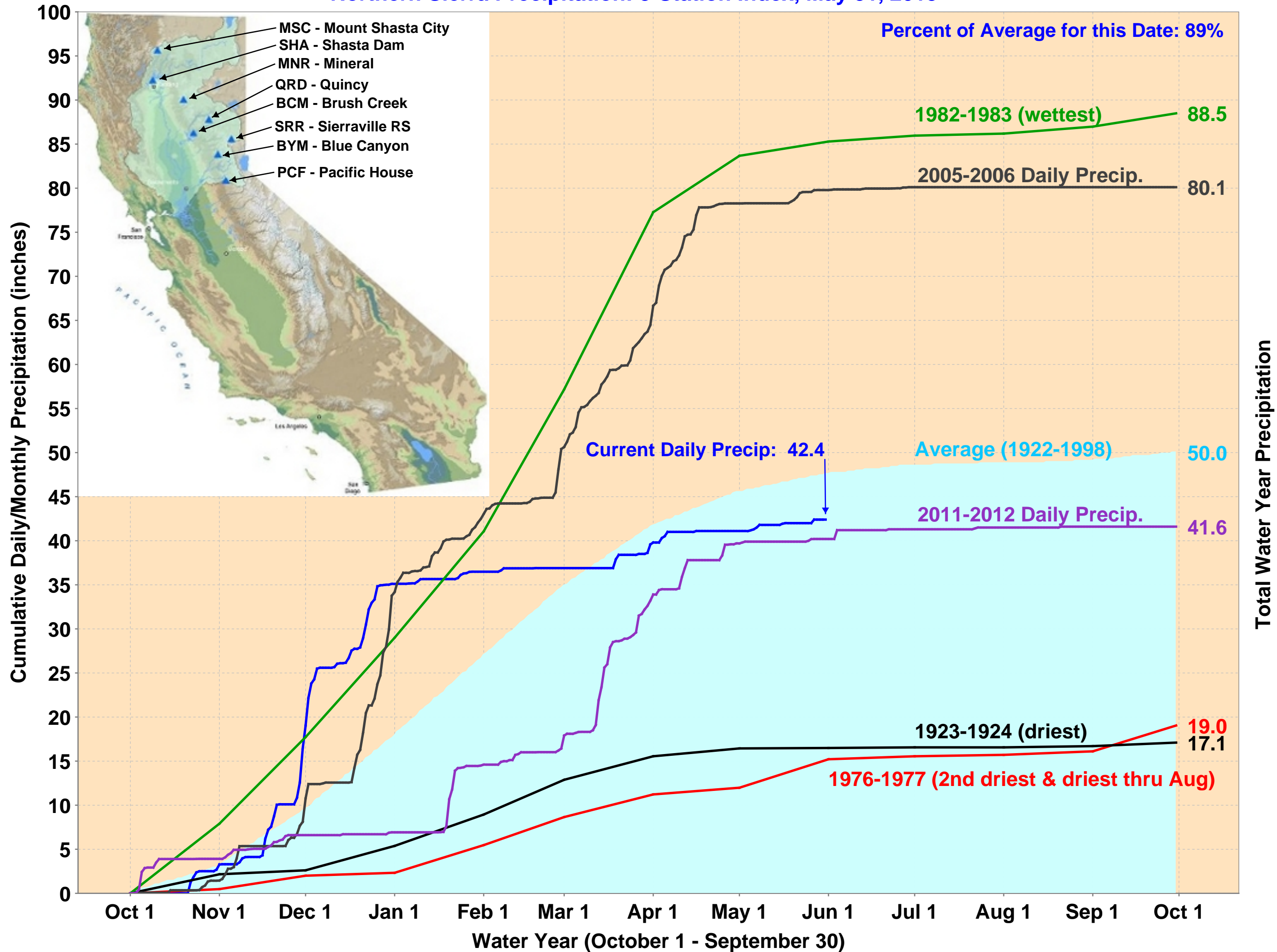
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Questions ?

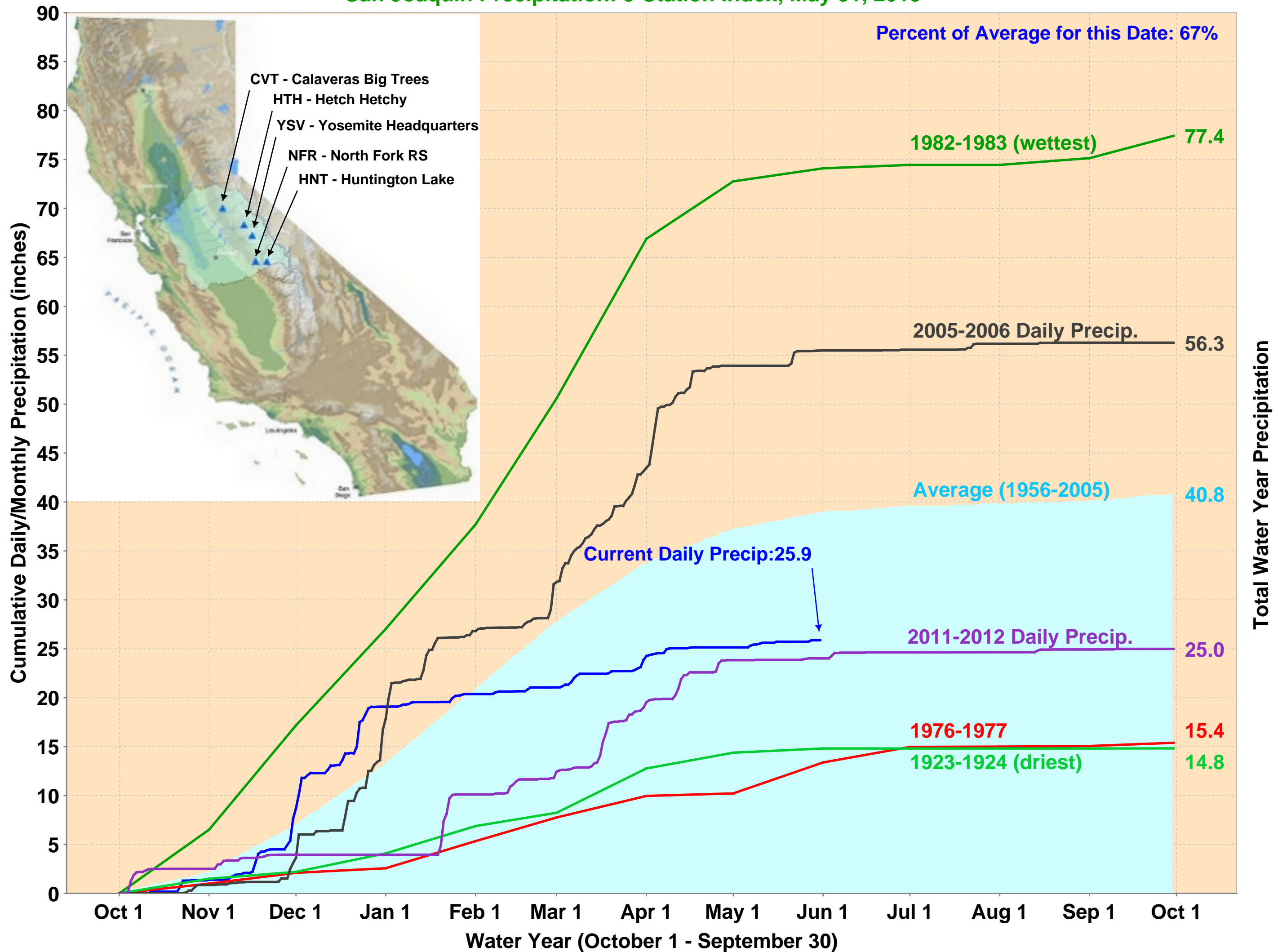


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Northern Sierra Precipitation: 8-Station Index, May 31, 2013



San Joaquin Precipitation: 5-Station Index, May 31, 2013



Northern Sierra 8-Station Precipitation (inches)

Water Year 2013

Friday, May 31, 2013

October Total:	2.7 "	Percent of Monthly October Average:	90%
October Monthly Average:	3.0 "		
November Total:	13.0 "	Percent of Monthly November Average:	206%
November Monthly Average:	6.3 "		
December Total:	17.2 "	Percent of Monthly December Average:	205%
December Monthly Average:	8.4 "		
January Total:	1.4 "	Percent of Monthly January Average:	16%
January Monthly Average:	9.0 "		
February Total:	0.9 "	Percent of Monthly February Average:	11%
February Monthly Average:	8.0 "		
March Total:	4.3 "	Percent of Monthly March Average:	62%
March Monthly Average:	6.9 "		
April Total:	1.5 "	Percent of Monthly April Average:	38%
April Monthly Average:	3.9 "		
May Total:	1.3 "	Percent of Monthly May Average:	62%
May Monthly Average:	2.1 "		
June Total:	"	Percent of Monthly June Average:	0%
June Monthly Average:	1.0 "		
July Total:	"	Percent of Monthly July Average:	0%
July Monthly Average:	0.2 "		
August Total:	"	Percent of Monthly August Average:	0%
August Monthly Average:	0.3 "		
September Total:	"	Percent of Monthly September Average:	0%
September Monthly Average:	0.9 "		

Total precipitation since 0800 PST Wednesday 05/29/2013: 0.0"

(Monthly totals may not add up to seasonal total because of rounding)

Seasonal Total to Date:	42.4 "	Percent of Seasonal Average to Date:	89%
Seasonal Average to Date:	47.6 "		

Water Year Average	50.0 "	Percent of an Average Water Year:	85%
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Notes:

Last year seasonal total: 40.2 "
84 %

Last year Jun 2012 total: 1.1 "
110 %

Last year May 2012 total: 0.5 "
24 %

<u>Driest Water Years</u>	<u>Driest January Thru May</u>	<u>Wettest Water Years</u>
17.1" in 1924	9.4 2013	1983 88.5 "
19.0" in 1977	11.1 1924	1995 85.4 "
27.7" in 1939	12.0 1976	1982 84.8 "
28.0" in 1931	12.9 1977	1998 82.4 "
28.3" in 1976	13.9 1985	2006 80.1 "
	14.2 1929	

San Joaquin 5-Station Precipitation (inches)

Water Year 2013

Friday, May 31, 2013

October Total:	1.3 "	Percent of Monthly October Average:	65%
October Monthly Average:	2.0 "		
November Total:	6.3 "	Percent of Monthly November Average:	134%
November Monthly Average:	4.7 "		
December Total:	11.5 "	Percent of Monthly December Average:	185%
December Monthly Average:	6.2 "		
January Total:	1.3 "	Percent of Monthly January Average:	17%
January Monthly Average:	7.6 "		
February Total:	0.6 "	Percent of Monthly February Average:	9%
February Monthly Average:	6.9 "		
March Total:	2.3 "	Percent of Monthly March Average:	38%
March Monthly Average:	6.1 "		
April Total:	1.9 "	Percent of Monthly April Average:	54%
April Monthly Average:	3.5 "		
May Total:	0.8 "	Percent of Monthly May Average:	44%
May Monthly Average:	1.8 "		
June Total:	"	Percent of Monthly June Average:	0%
June Monthly Average:	0.6 "		
July Total:	"	Percent of Monthly July Average:	0%
July Monthly Average:	0.3 "		
August Total:	"	Percent of Monthly August Average:	0%
August Monthly Average:	0.2 "		
September Total:	"	Percent of Monthly September Average:	0%
September Monthly Average:	0.8 "		

Total precipitation since 0000 PST Wednesday 05/29/2013: 0.1 "

(Monthly totals may not add up to seasonal total because of rounding)

Seasonal Total to Date:	25.9 "	Percent of Seasonal Average to Date:	67%
Seasonal Average to Date:	38.9 "		

Water Year Average	40.8 "	Percent of an Average Water Year:	63%
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Notes:

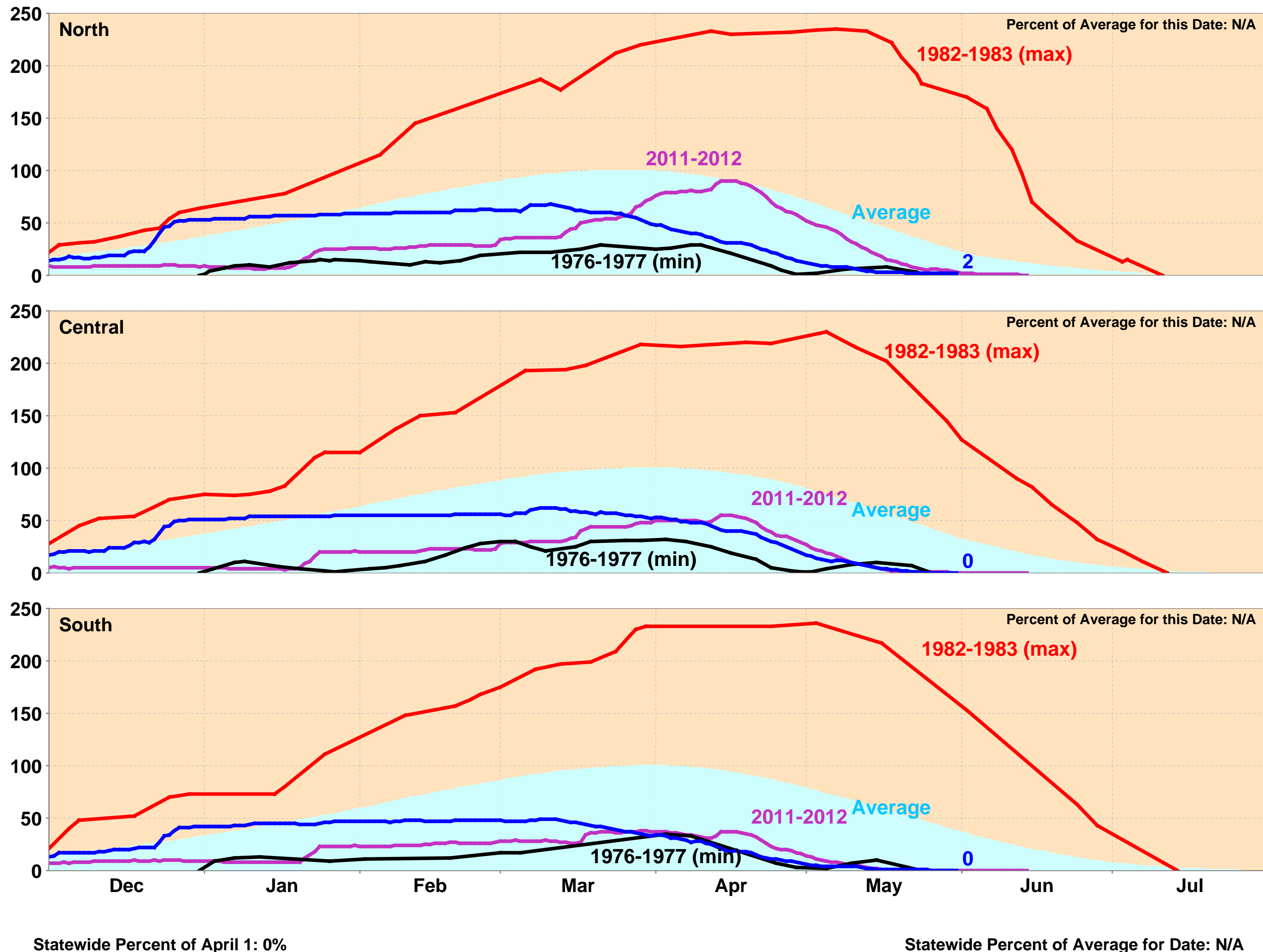
Last year seasonal total: 24.0 "
62 %

Last year Jun 2012 total: 0.5 "
83 %

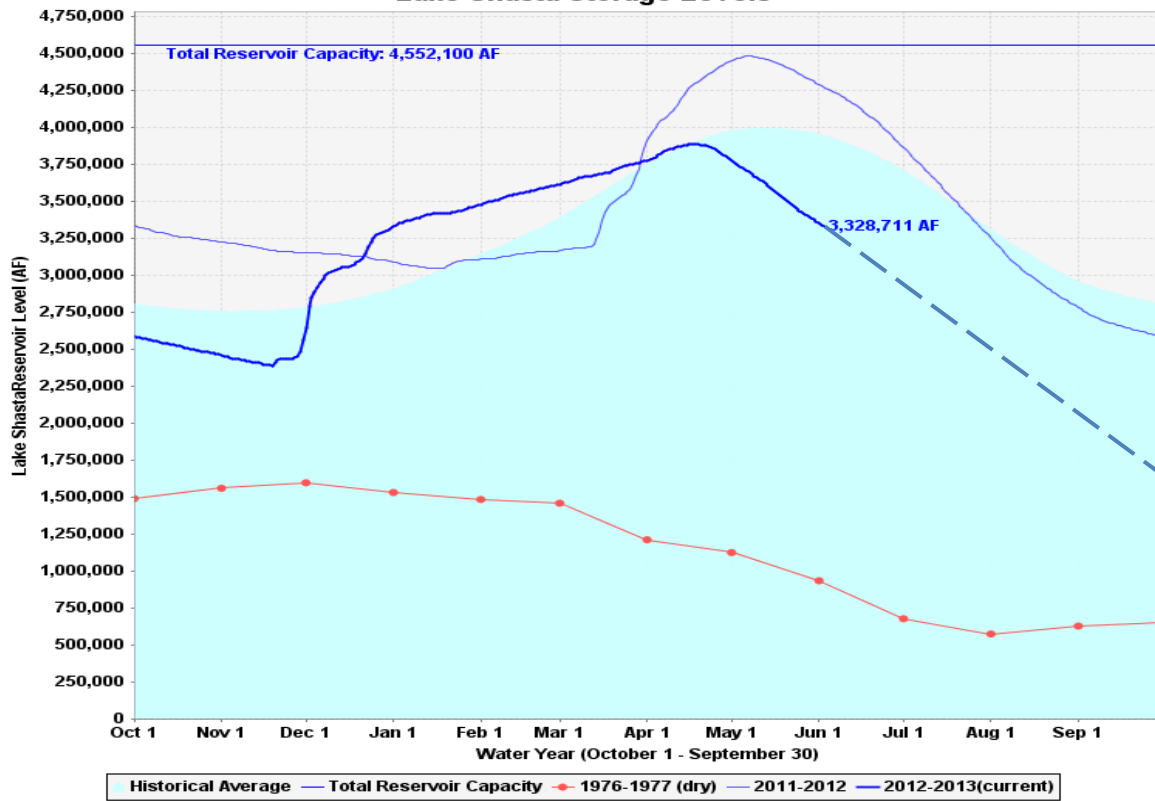
Last year May 2012 total: 0.2 "
11 %

<u>Driest Water Years</u>	<u>Driest January Thru May</u>	<u>Wettest Water Years</u>
14.8" in 1924	6.8 2013	1983 77.4 "
15.4" in 1977	8.7 1966	1995 70.0 "
20.4" in 1987	9.0 1972	1969 67.9 "
22.3" in 1931	10.6 1924	1982 67.5 "
23.6" in 1968	11.1 1977	1998 65.2 "
	11.3 1984	

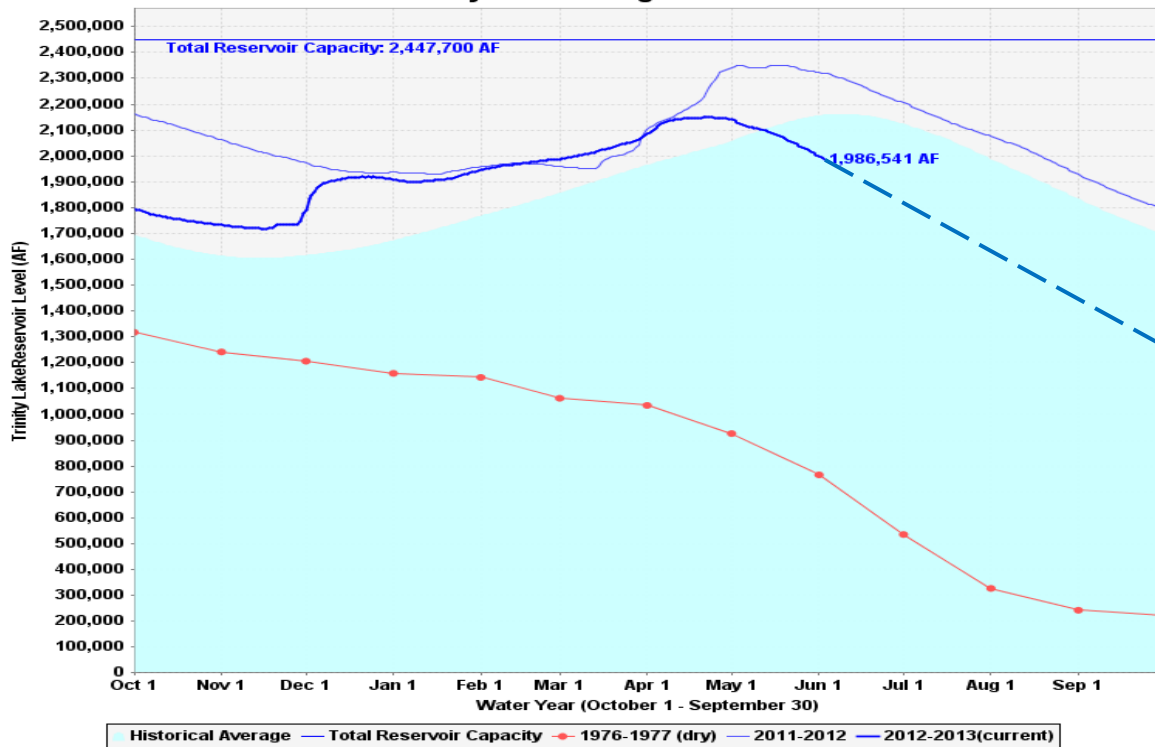
California Snow Water Content, May 31, 2013, Percent of April 1 Average



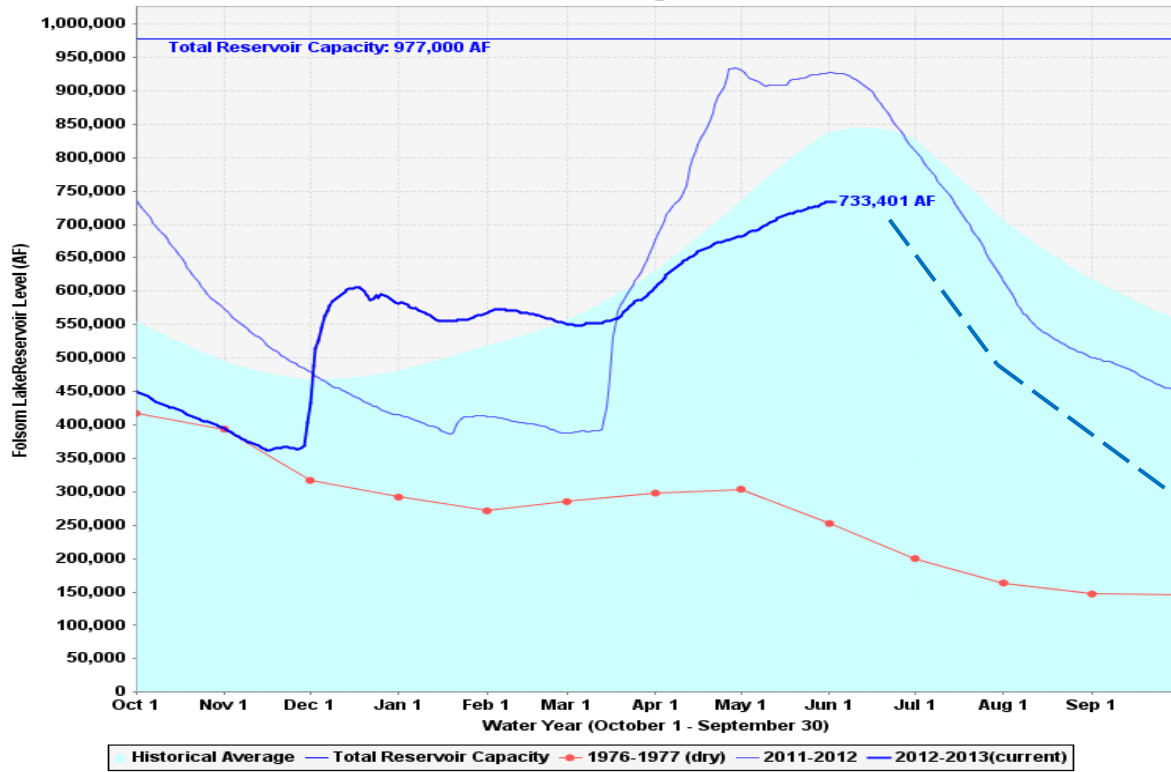
Lake Shasta Storage Levels



Trinity Lake Storage Levels



Folsom Lake Storage Levels



New Melones Storage Levels

